

## REMARKS

Claims 1-21 are pending in the application. Claims 1, 11, and 18 are currently amended. Applicant respectfully requests for allowance of all the pending claims.

### Rejections under 35 U.S.C. §112

Claims 11-21 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Specifically, claim 11 is rejected because the limitation “*the fluid inlet of the **second** flow path and the fluid inlet of the **second** flow path*” is unclear.

Claim 11, as amended, now recites the limitation as “*the fluid inlet of the **first** flow path and the fluid inlet of the **second** flow path.*” Applicant believes that the rejection is now overcome, and therefore respectfully requests that the rejection be withdrawn.

Claims 12-21 are rejected due to their dependence on claim 11. Given the amendment to claim 11, Applicant believes that the rejections against claims 12-21 are now moot, and therefore respectfully requests that the rejections be withdrawn.

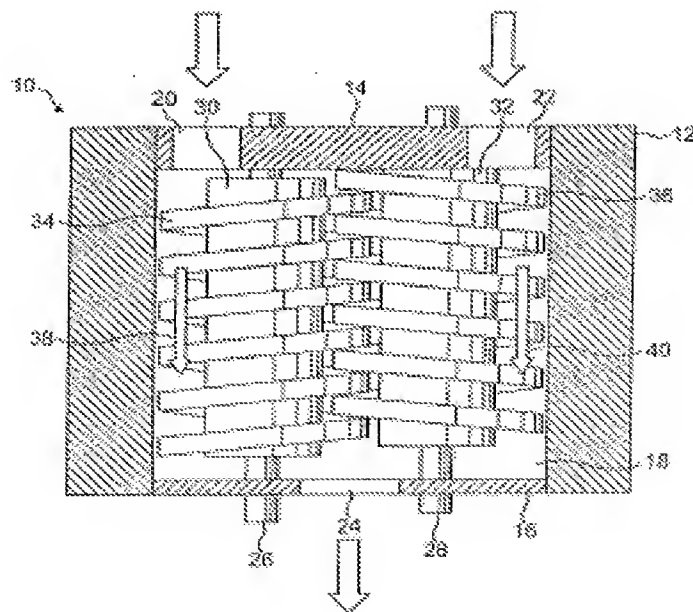
### Rejections under 35 U.S.C. §102

Claims 1-7 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,352,097 to Itou et al. (hereinafter referred to as “Itou”).

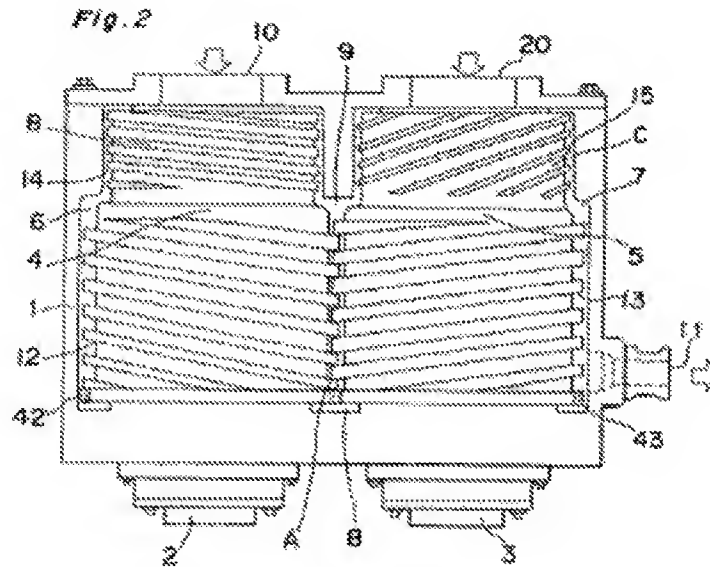
Independent claim 1 is directed to a screw pump comprising: a chamber defining with first and second externally threaded rotors mounted on respective shafts rotatably disposed for counter-rotation within the chamber a plurality of flow paths having

respective fluid inlets wherein a first one and a second one of the respective inlets are located at a common low pressure side of the chamber. As currently amended, claim 1 now includes language *“wherein threads of the first and second rotors are intermeshed at a location adjacent to the first and second inlets, such that fluid entering the chamber via the first and second inlets is moved through the flow paths by the first and second rotors in a manner of positive displacement.”*

The added language is supported by the specification. As shown below in the drawing of the specification which illustrates embodiments of the invention, the threads 34 and 36 of the first and second rotors 30 and 32, respectively, are intermeshed at a location adjacent to the first and second inlets 20 and 22. Fluid entering the chamber via the first and second inlets 20 and 22 is moved through flow paths 38 and 40 by rotating the rotors 30 and 32, therefore forcing the fluid contained in the space among the threads toward the outlet 24. This type of pumps is called positive displacement pumps.



Itou fails to teach, suggest, or imply “*threads of the first and second rotors are intermeshed at a location adjacent to the first and second inlets.*” As shown below in FIG. 2 of Itou, the two kinetic vacuum pump structure sections B and C at a location adjacent to inlets 10 and 20 are not intermeshed with each other. The pump sections B and C are separated by an internally extended wall of housing 1.



Moreover, the pump sections B and C do not move fluid through paths in housing 1 in a manner of “*positive displacement.*” The pump sections B and C are kinetic pumps, which move fluid by spinning rotary shafts 2 and 3 to impart momentum to gas molecules with the thread grooves 14 and 15. *See, col. 1, lines 55-65.* It is at least for this reason that the pump sections B and C need to be separate, and cannot be intermeshed as rotors of a positive-displacement-type screw pump otherwise would.

Thus, Applicant respectfully submits that Itou fails to teach, suggest, or imply each and every element recited in claim 1, and therefore cannot anticipate the same.

Accordingly, claims 6-7 and 9 that depend from claim 1 and include all the limitations recited therein are also patentable over Itou under 35 U.S.C. 102(b).

### **Rejections under 35 U.S.C. §103**

Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Itou in view of prior art of Examiner's assertion.

As discussed above, independent claim 1, as amended, is patentable over Itou under 35 U.S.C. 102(b). Accordingly, claims 8 and 9 that depend from claim 1 and include all the limitations recited therein are also patentable over Itou and the asserted prior art under 35 U.S.C. 103(a).

### **Allowable Subject Matter**

Applicant acknowledges with appreciation that claim 10 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

## CONCLUSION

Applicant has made an earnest attempt to place this application in an allowable form. In view of the foregoing remarks, it is respectfully submitted that the pending claims are drawn to a novel subject matter, patentably distinguishable over the prior art of record. Examiner is therefore, respectfully requested to reconsider and withdraw the outstanding rejections.

Should Examiner deem that any further clarification is desirable, Examiner is invited to telephone the undersigned at the below listed telephone number.

Applicant does not believe that any additional fee is due, but as a precaution, the Commissioner is hereby authorized to charge any additional fee to deposit account number 50-4244.

Respectfully submitted,

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